Defense Information Infrastructure (DII)

Common Operating Environment (COE)

Version 3.0.0.6

Version Description Document for the Developer's Toolkit

(Windows NT 4.0)

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> **NOTE**: Courier font is used to indicate entries to be typed at the keyboard, Windows NT commands, file and directory names, and screen text. For example:
>
> The file is located in the `DII_DEV` directory.

1. System Overview

Defense Information Infrastructure (DII) Common Operating Environment (COE) developer's tools were developed to aid the developer in the creation and ultimate installation of DII COE segments. The tools make software integration a largely automated process, thus significantly reducing development time while automatically allowing detection of potential integration and runtime problem areas.

This delivery consists of eight developer's tools for the Windows NT environment: CalcSpace, CanInstall, MakeInstall, TestInstall, TestRemove, TimeStamp, VerifySeg, and VerUpdate. All eight tools can be run from the command line; in addition, the MakeInstall tool also can be run using a graphical user interface (GUI). Each tool is described briefly below.

- C **CalcSpace Version 1.0.0.6**—the CalcSpace tool computes the space required for the segment specified and updates the hardware descriptor.

- C **CanInstall Version 1.0.0.8**—the CanInstall tool tests a segment to determine if it can be installed, which means that all required segments must already be on the disk and the disk cannot have any conflicting segments.

- C **MakeInstall Version 1.0.1.7**—the MakeInstall tool writes one or more segments to an installation medium or packages the segments for distribution over the network.

- C **TestInstall Version 1.0.0.9**—the TestInstall tool temporarily installs a segment that already resides on disk.

- C **TestRemove Version 1.0.0.8**—the TestRemove tool removes a segment that was installed by the TestInstall tool.

- C **TimeStamp Version 1.0.0.8**—the TimeStamp tool puts the current time and date into the `VERSION` descriptor of the specified segment.

- C **VerifySeg Version 1.0.0.9**—the VerifySeg tool validates that a segment conforms to the rules for defining a segment.

- C **VerUpdate Version 1.0.1.7**—the VerUpdate tool increments the segment version number and updates the date and time in the `VERSION` descriptor of the specified segment.

The *DII COE Integration and Runtime Specification* provides a description of these tools and their functionality.

This version of the DII COE developer's toolkit is designed to run on the Windows NT Operating System Version 4.0.

2. Referenced Documents

The following documents are referenced in this Version Description Document:

C   *Defense Information Infrastructure (DII) Common Operating Environment (COE) Integration and Runtime Specification* Version 2.0, DII COE I&RTS:Rev 2.0, Inter-National Research Institute, October 23, 1995

C   *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.0.0.6 Programming Guide (Windows NT 4.0)*, DII.3006.NT40.PG-1, Inter-National Research Institute, February 5, 1997.

3. Version Description

3.1   Inventory of Materials Released

C   <u>Magnetic media</u>: Two copies of two 3.5" floppy diskettes containing the executable files for the Windows NT CalcSpace, CanInstall, MakeInstall, TestInstall, TestRemove, TimeStamp, VerifySeg, and VerUpdate tools. These diskettes also contain `include` files, libraries, and example source files for the public Application Programmer Interfaces (APIs).

C   <u>Soft-copy Documentation</u>: One 3.5" floppy diskette (WordPerfect 6.0 for Windows format) containing the *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.0.0.6 Version Description Document for the Developer's Toolkit (Windows NT 4.0)*, Document Control No. DII.3006.NT40.DTK.VDD-1, February 5, 1997.

C   <u>Hard-copy Documentation</u>: Two hard copies of the aforementioned Version Description Document.

3.2   Software Changes

The directory structure for installed segments was modified to comply with the *DII COE Integration and Runtime Specification*. In addition, the registry structure for segments was changed. Reference the following table for a list of software changes for the DII COE Version 3.0.0.6 Developer's Toolkit (Windows NT 4.0).

DII COE Version 3.0.0.6 Developer's Toolkit (Windows NT 4.0) Software Changes
Total Software Changes: [2]
INRI Number: RTO00000928   **Agency Number**:   None.   **Short Description**:   CanInstall error message for conflicting segments needs modification.   **Long Description**:   The message for Conflicts that currently reads "a conflict segment at h/AcctGrps/SysAdm was found on disk!" should be modified to read "a conflicting segment at /h/AcctGrps/SysAdm was found on disk!". Test Case 34 TestInstall (TestInstall calls CanInstall).
INRI Number: RTO00001341   **Agency Number**:   None.   **Short Description**:   VerUpdate defaults to the \h directory.   **Long Description**:   VerUpdate defaults to the \h directory. Windows NT tools should default to the current directory. VerUpdate is the only Windows NT tool that defaults to the \h directory.

4.   Installation Instructions

Reference the *DII COE Programming Guide (Windows NT 4.0)* for instructions on installing the developer's tools.

5. Known Problems and Errors

Reference the following table for a list of known problems and errors with the DII COE Version 3.0.0.6 Developer's Toolkit (Windows NT 4.0).

DII COE Version 3.0.0.6 Developer's Toolkit (Windows NT 4.0) Known Problems and Errors
Total Open Known Problems and Errors: [1]
INRI Number: RTO00001316 **Agency Number:**   None. **Short Description:** TestRemove does not perform dependency checking on NT when de-installing multiple Patch segments. **Long Description:** TestRemove does not perform dependency checking on NT when de-installing multiple Patch segments. The tool allows patches to be removed even though valid [Requires] and $SEGMENT entries are found in their "SegInfo" and "SegName" files, respectively. If the Installer tries to de-install the same segment, it will perform dependency checking and generate an error if a patch is deleted improperly (e.g., out of numerical sequence). In the above scenario, an account group was created and several patches were installed to modify the account group. When the patches were installed, a "Patches" directory was not created under the installed account group segment. Once the patches were deinstalled using TestRemove, their Registry entries were deleted, which is fine, but the associated dependency with the account group was not checked or even noted in a common directory structure as it is in the UNIX implementation of account groups and patches.

6. Release Notes

General

1. Because the registry and directory structures were modified for the DII COE Version 3.0.0.6 release, the CanInstall, MakeInstall, TestInstall, and TestRemove tools will not function properly on systems that have previous versions of the DII COE Kernel installed. These tools should be used with the DII COE Kernel Version 3.0.0.6.

2. During tool execution, some filenames are displayed with incorrect path separator characters [i.e., a forward slash (/) instead of a backward slash (\)]. This does not affect segment operation.

3. Some executables may cause resource contention problems when used during PostInstall processing. These resource contention problems occur when the PostInstall executable tries to use a resource that is locked by the COEInstaller. When this occurs, PostInstall appears to suspend the installation. Developers should avoid using a PostInstall executable that creates this problem. If this cannot be avoided, the developer can create a PostInstall executable that launches the program using a Windows API function, such as `CreateProcess`, which starts a process without waiting for it to return. This will allow the COEInstaller to continue processing before PostInstall is complete. This will execute the PostInstall out of the normal sequence of events and should be used with caution.

4. The COEInstaller will terminate unexpectedly while reading the table of contents when the MakeInstall media contains a patch segment and the affected segment is not already installed on the machine. In order to work around this problem, make sure the affected segment is already installed on the machine before attempting to read MakeInstall media containing a patch for the segment.

MakeInstall Tool

1. The combined size of the `SegDescrip` directories for MakeInstall disk sets must be less than 1.44 MB.

2. MakeInstall does not support variants.

3. MakeInstall does not allow segments and their descriptors to be checked out from the repository.

4. MakeInstall does not support the `-ot {files}` command line option.

5. In order not to compress a segment, the `$NOCOMPRESS` option must be specified in the direct `SegDescrip` entry in the `SegInfo` file. MakeInstall no longer prompts the user with a compress option; instead, the tool automatically references the `SegDescrip` entry.

6. When running MakeInstall, the first window that requests header information (e.g., name, serial, comment) may not be brought to the foreground if other application windows are open; as a result, the user may have to close or iconify other open application windows to bring the header window into view.

TestInstall Tool

1. When running TestInstall, the `Program Manager` window may appear on top of the TestInstall window when adding icons. This does not indicate completion of the installation: the user must select the `TestInstall` window to view the rest of the installation.

2. The `AcctGrp` descriptor only supports one entry. If multiple entries exist, only the first account group is created.

TestRemove Tool

1. TestRemove does not remove services, groups, or password file entries.

TimeStamp Tool

1. If a valid version line cannot be identified and no command line parameters are given, TimeStamp returns an error.

VerifySeg Tool

1. The `-f` option has not been implemented for VerifySeg.

2. VerifySeg cannot be run against a segment on a write-protected diskette because it needs to update the validated file within `SegDescrip`.

3. VerifySeg does not check the syntax of version numbers listed in the `Compat` Segment Descriptor file.

4. VerifySeg performs keyword parsing (searches for keywords and their associated fields) but does not perform validity (bounds or data field) checking in the `Conflicts` or `VERSION` descriptor file.

5. VerifySeg does not perform checking in the `FilesList` Segment Descriptor file.

6. VerifySeg performs validity checking (bounds or data field) on keywords but not on data associated with keywords (e.g., disk size in the `Hardware` Segment Descriptor file).

7. VerifySeg does not check keyword combination or keyword and segment type constraints in the `Hardware` Segment Descriptor file.

VerUpdate Tool

1. If a valid version line in the version file cannot be identified and no command line parameters are given, VerUpdate returns an error.